AMENDMENTS TO THE CLAIMS

The following is a listing of all claims that are, or ever were, in the instant application. This listing is intended to replace all prior versions, and listings, of claims in the application.

Listing of claims:

1-17 (canceled).

18 (currently amended). A mirror comprising a reflective surface bonded to a substrate, the reflective surface comprising ~~amorphous~~ silicon metal in substantially amorphous form, the substrate comprising a composite body comprising (i) a matrix component comprising silicon metal, (ii) a reinforcement material comprising a plurality of carbon fibers distributed throughout said matrix component, and (iii) at least one coating disposed between said carbon fibers and said matrix.

19 (original). The mirror of claim 18, wherein said reinforcement material further comprises silicon carbide.

20 (canceled).

21 (original). The mirror of claim 18, wherein said coating comprises at least one material selected from the group consisting of carbon, boron nitride and silicon carbide.

22 (original). The mirror of claim 18, wherein said composite body comprises siliconized silicon carbide.

23 (canceled).

24 (previously presented). A mirror comprising a reflective surface bonded to a substrate, the reflective surface comprising silicon metal, the substrate comprising a composite body comprising (i) a matrix component comprising silicon metal, (ii) a reinforcement material comprising a plurality of carbon fibers distributed throughout said matrix component, and (iii) at least one coating disposed between said carbon fibers and said matrix, and further wherein said substrate has a CTE between about negative 0.46 and positive 1.75 ppm/K.

25 (new). The mirror of claim 24, wherein said substrate has a coefficient of thermal expansion between -0.46 ppm/K and +1.06 ppm/K.

26 (new). The mirror of claim 24, wherein said silicon metal of said reflective surface is substantially amorphous.

27 (new). The mirror of claim 24, wherein said reflective surface consists essentially of said silicon metal.

28 (new). The mirror of claim 24, wherein said coating comprises elemental carbon other than graphite.

29 (new). The mirror of claim 24, wherein said composite body comprises reaction bonded silicon carbide.

30 (new). The mirror of claim 24, wherein said carbon fibers are woven.

31 (new). The mirror of claim 24, wherein said carbon fibers have an overall or average CTE in an axial direction that is a negative value.

32 (new). The mirror of claim 18, wherein said coating comprises pyrolytic carbon.

33 (new). The mirror of claim 18, wherein said substrate has a coefficient of thermal expansion between -0.46 ppm/K and +1.75 ppm/K.

34 (new). The mirror of claim 18, wherein said reflective surface consists essentially of said silicon metal.

35 (new). The mirror of claim 18, wherein said matrix component further comprises beta silicon carbide.

36 (new). The mirror of claim 18, wherein said carbon fibers are woven.

37 (new). The mirror of claim 36, wherein said carbon fibers are woven into a two-dimensional ply.

38 (new). The mirror of claim 18, wherein said carbon fibers are unidirectional.

39 (new). The mirror of claim 18, wherein said carbon fibers are provided in the form of a prepreg.

40 (new). The mirror of claim 37, wherein a plurality of said plies are laminated to a desired orientation and thickness.

41 (new). The mirror of claim 18, wherein said carbon fibers have an overall or average CTE in the axial direction that is less than about 2.7 ppm/K.

42 (new). The mirror of claim 18, wherein said mirror substrate comprises a plurality of ribs on a surface that is opposite that surface to which said reflective surface is bonded.